

Workstream:

Bridge

Bridge Program Improvement Process Recommendations

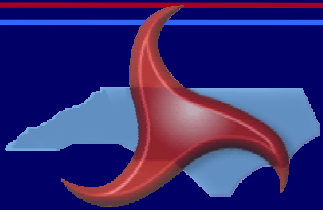
All recommendations facilitate improvement to the functionality issues identified by Mckinsey diagnostic

- ☐ **Coordination among business units**
- ☐ **Project accountability**
- ☐ **Coordination across geographic regions**
- ☐ **bureaucracy**

Recommendation	Why
<p>Recommendation No. 1A – Develop a Bridge Program Management Strategy</p> <p>This can be accomplished by creating a central bridge program manager and division bridge managers. This provides a central point of accountability and an individual focus on bridges in each division. The central manager is responsible for the bridge program delivery (from setting priorities, to planning, design and through maintenance) while each Division manager focuses on managing the program in each Division.</p> <p>Recommendation No. 1B - The development of a Division R/W - utility coordinator is necessary to provide for effective management of the R/W acquisition and utility relocation for bridge and highway projects.</p>	<p>Finding No. 1 Ownership of the Bridge Program</p> <p>The ownership of the Bridge Program is currently shared by Divisions, Bridge Maintenance Unit, Structures Design, Hydraulics, Geotechnical, Roadway, PDEA Right of Way, Utilities and Construction. Each business unit performs a function of the program which leads to a fragmented program or stove pipes. A single point of accountability can improve coordination, efficiency and timeliness.</p>
<p>Recommendation No. 2A – Defined Maintenance Program and Strategies</p> <p>Build upon Operations performance based management principles by defining the maintenance program and strategies. This can be accomplished by developing a complete maintenance manual to provide guidance on proper and timely maintenance.</p> <p>Recommendation No. 2B – Develop preservation and rehabilitation strategies</p> <p>Build upon the existing preservation program to extend the life of a structure and make our resources go farther. Develop candidate projects and strategies for rehabilitation projects.</p>	<p>Finding No. 2 Maintenance, Preservation and Rehabilitation Strategies</p> <p>NCDOT is in a reactive mode of addressing worst first. Strategies for maintenance, preservation and rehabilitation must be applied to extend the useful life of NCDOT's bridges. Although performance based maintenance goals have been established there is a little documented guidance on effective maintenance strategies. Currently, NCDOT is doing minimal bridge rehabilitation's.</p>

BRIDGE PROGRAM EXPANSION

Presented by
Calvin Leggett, P.E.

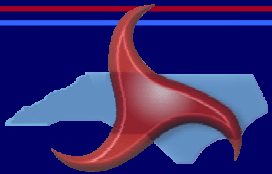


Bridge Facts

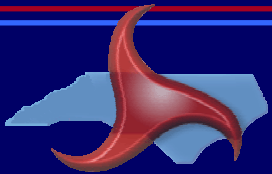
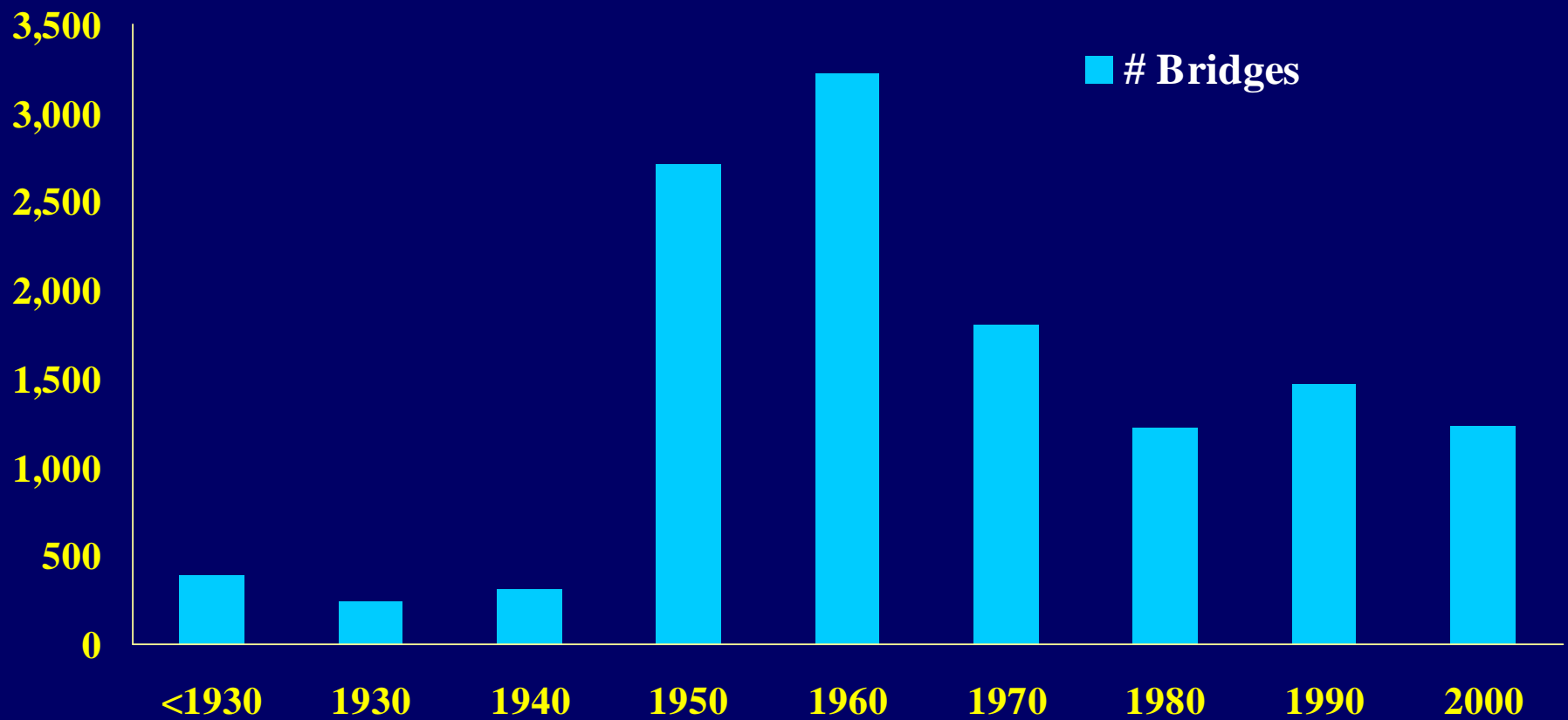
(Figures are Approximate)

12,600 State-owned and Maintained Bridges

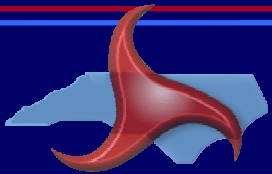
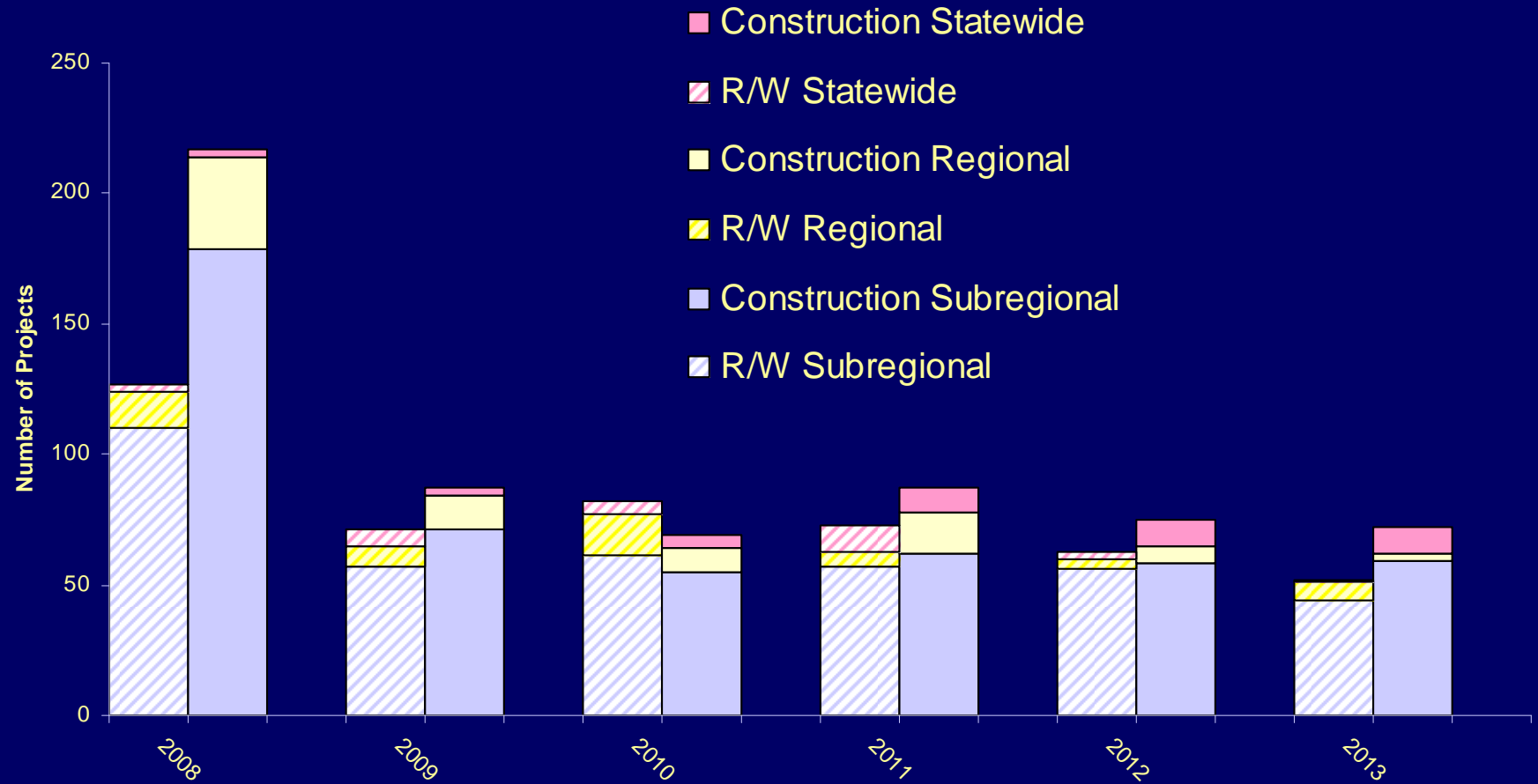
- 2,000 Bridges with $SR < 50$
- 700 Bridges are Programmed in TIP
- 4,000 with Timber Components
- 3,421 Bridges with 10 years or less Estimated Remaining Life



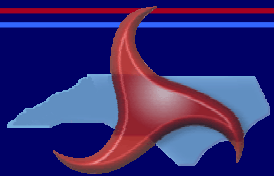
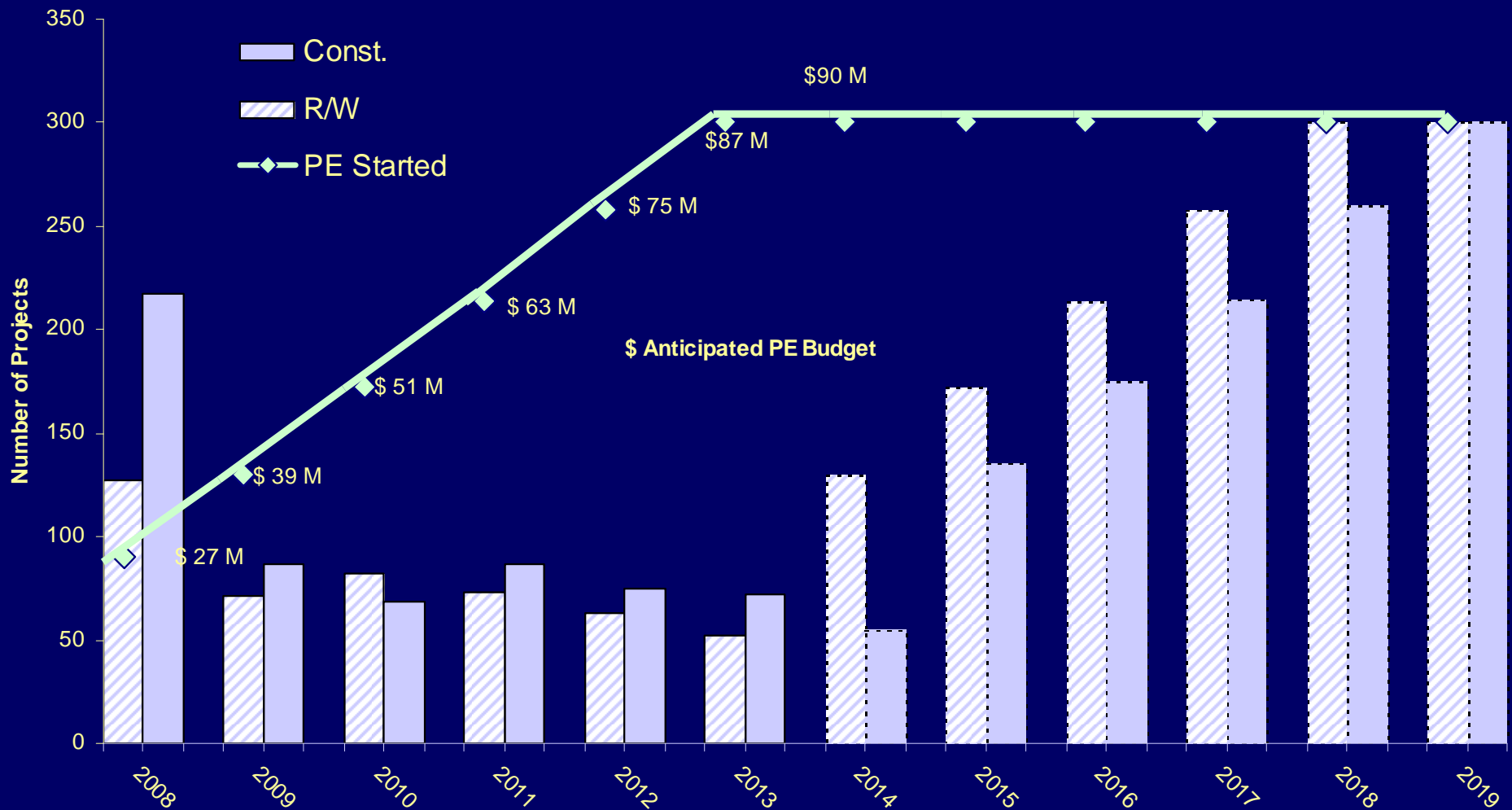
Bridge Age



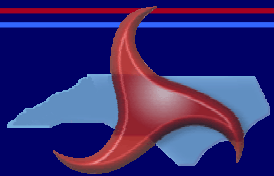
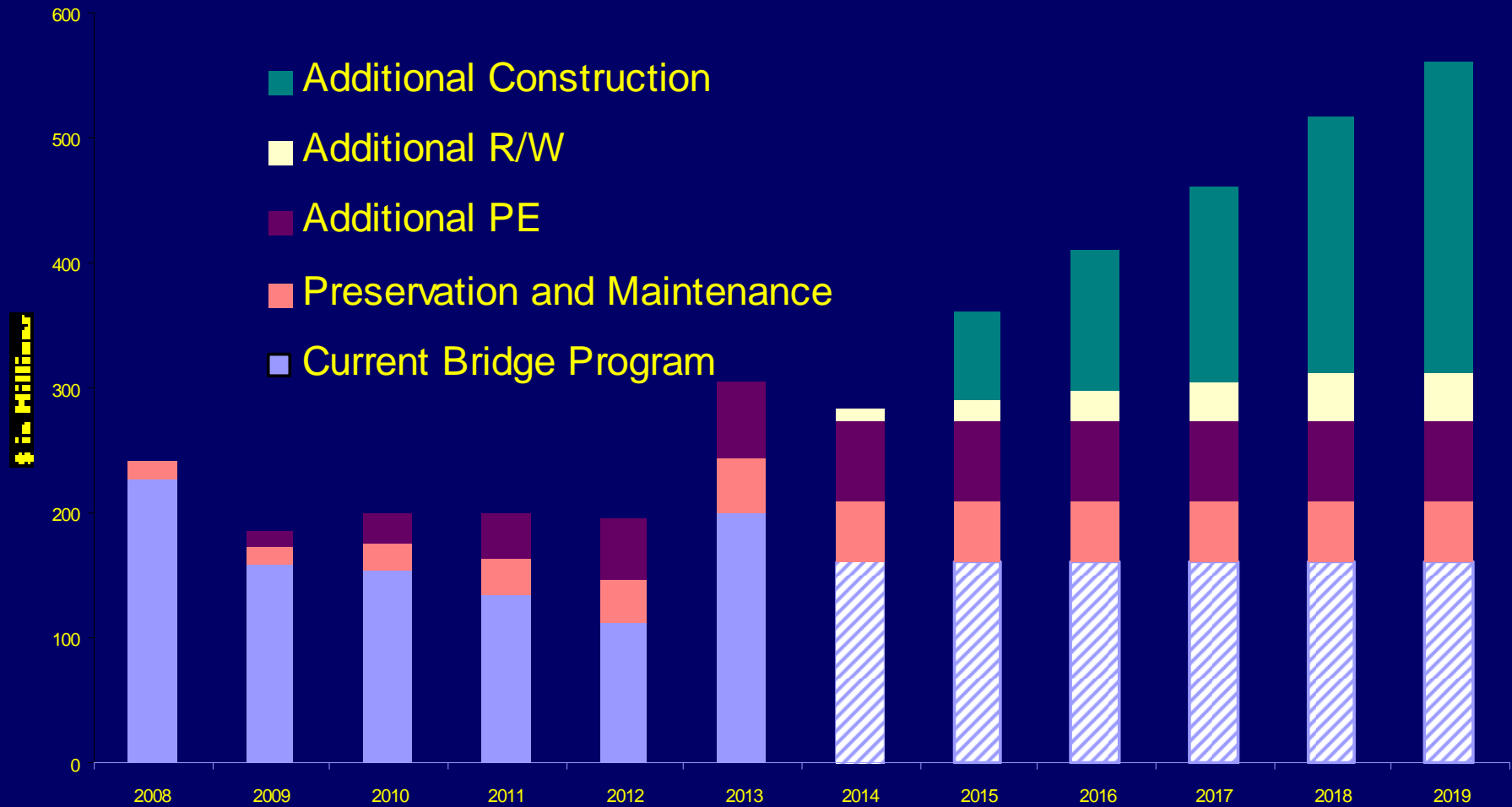
Bridge Projects by Tier



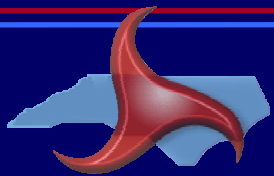
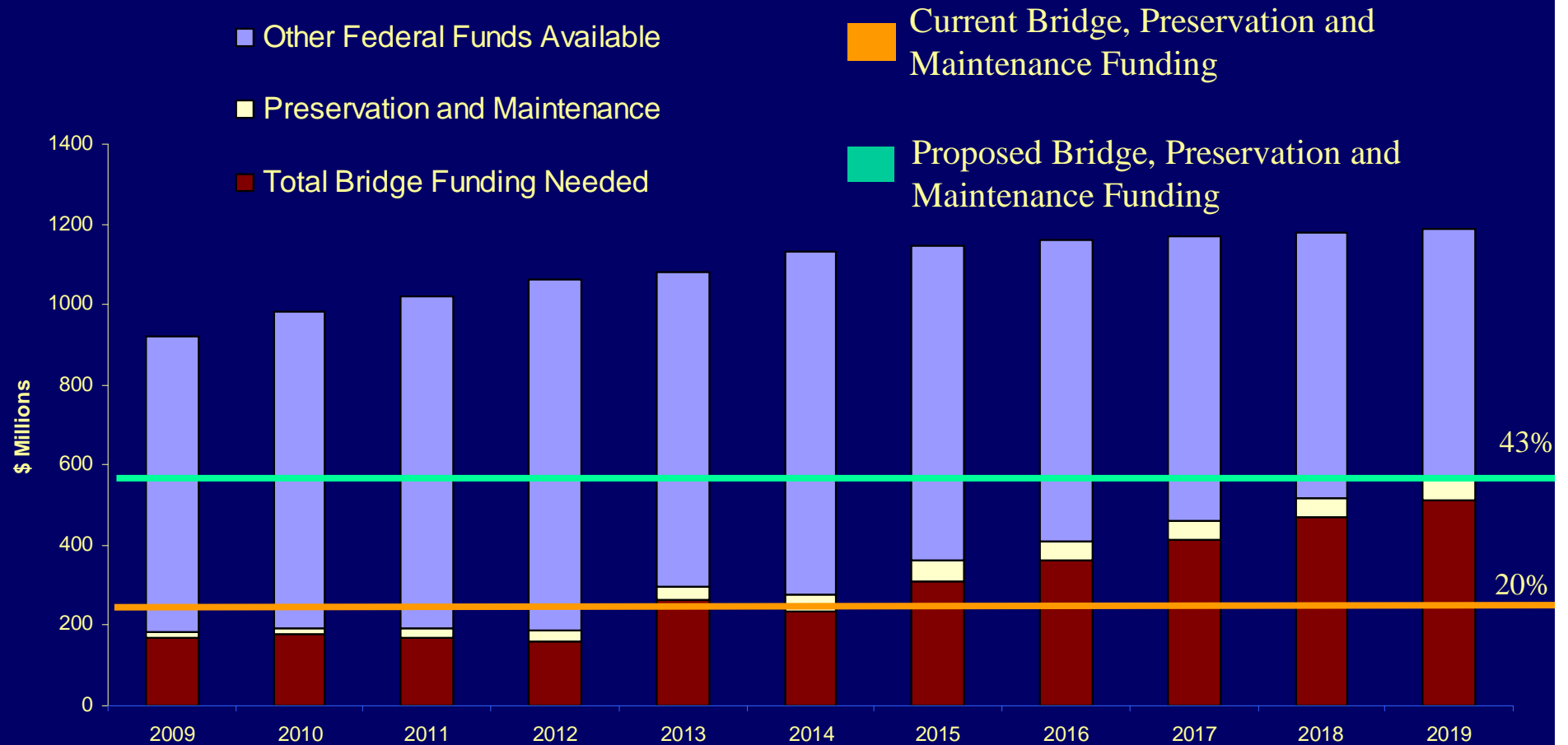
Expanded Bridge Program



Breakdown of Additional Funding Needed

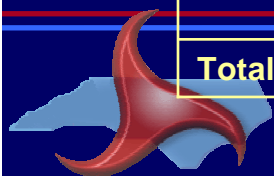


Funding Needs for Expanded Bridge Program



Bridge PE Expenditures by Business Unit

<u>Preconstruction</u>	Percent of Project Expenses	Percent of PE Expenses
Structure Design	3.33	17.70
Planning and Environmental	3.18	16.90
Roadway Design	3.24	15.30
Geotechnical	2.09	11.10
Location and Surveys	1.75	9.30
Project Services	1.40	5.70
Hydraulics	0.72	3.80
Traffic Engineering	0.51	2.70
Photogrammetry	0.26	1.40
Planning and Programming	0.23	1.20
Right of Way Field	0.06	0.30
Total	16.76	85.40
<u>Operations</u>		
Divisions 1 - 14	0.45	2.00
Construction	1.71	9.10
Maintenance & Environmental	0.16	0.60
Utilities	0.06	0.30
Total	2.38	12.00
<u>Misc. Cost Centers</u>	0.49	2.60
Total	19.64	100.00



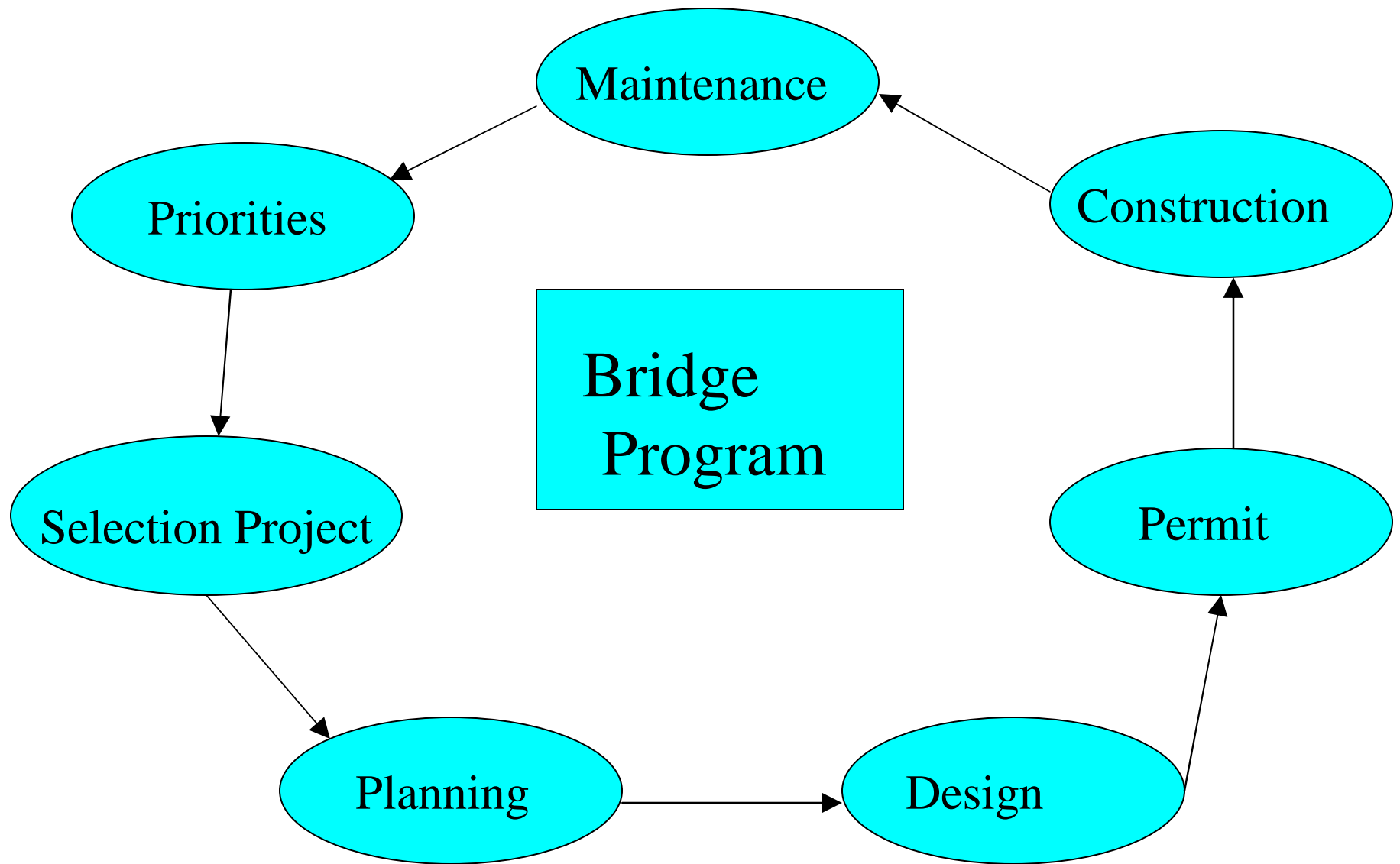
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NCDOT Bridge Program

TMT Bridge Team

Mission

- Improve the bridge program
 - Improve the condition of our bridges
 - Make our dollars go farther



Bridges Coming of Age

- Need to address 8000 bridges in 20 years
 - Need to address 400 per year (2010-2030) we currently average replacing about 100 per year, 210 becoming structurally deficient each year
 - NCDOT has 4300 bridges with timber substructure built between 1950 and 1970.
 - Delayed action will result in higher costs

Approach to Improvements

- Determine functionality issues
- Develop recommendations to improve

Workshops and meetings

- Workshops and meetings to ID functionality issues and possible improvements
- Workshops with Bridge Tech. Team, Consultants, Contractors
- Meetings with group of DE's, Directors of Preconstruction, Operations and Asset Management, Design Branch Manager, Unit Heads for BMU, SDU and Hydraulics

Bridge Program

Functionality Issues

- Consistent with McKinsey diagnostic results:
 - Coordination among business units
 - Project accountability
 - Coordination across geographic regions
 - Bureaucracy

Bridge Program

Functionality Issues

- Currently not spending all Federal allocation of “B” funds due to poor project delivery
- Maintenance, preservation and rehabilitation strategies have not been fully developed and are not used in determining project priorities.
- No overall ownership of the bridge program

Bridge Program

Functionality Issues

- On site scoping meetings are the exception rather than the rule
- Permit and in water work moratorium requirements
- “B” projects are not a priority during the project development phase for DOT or Agency personnel

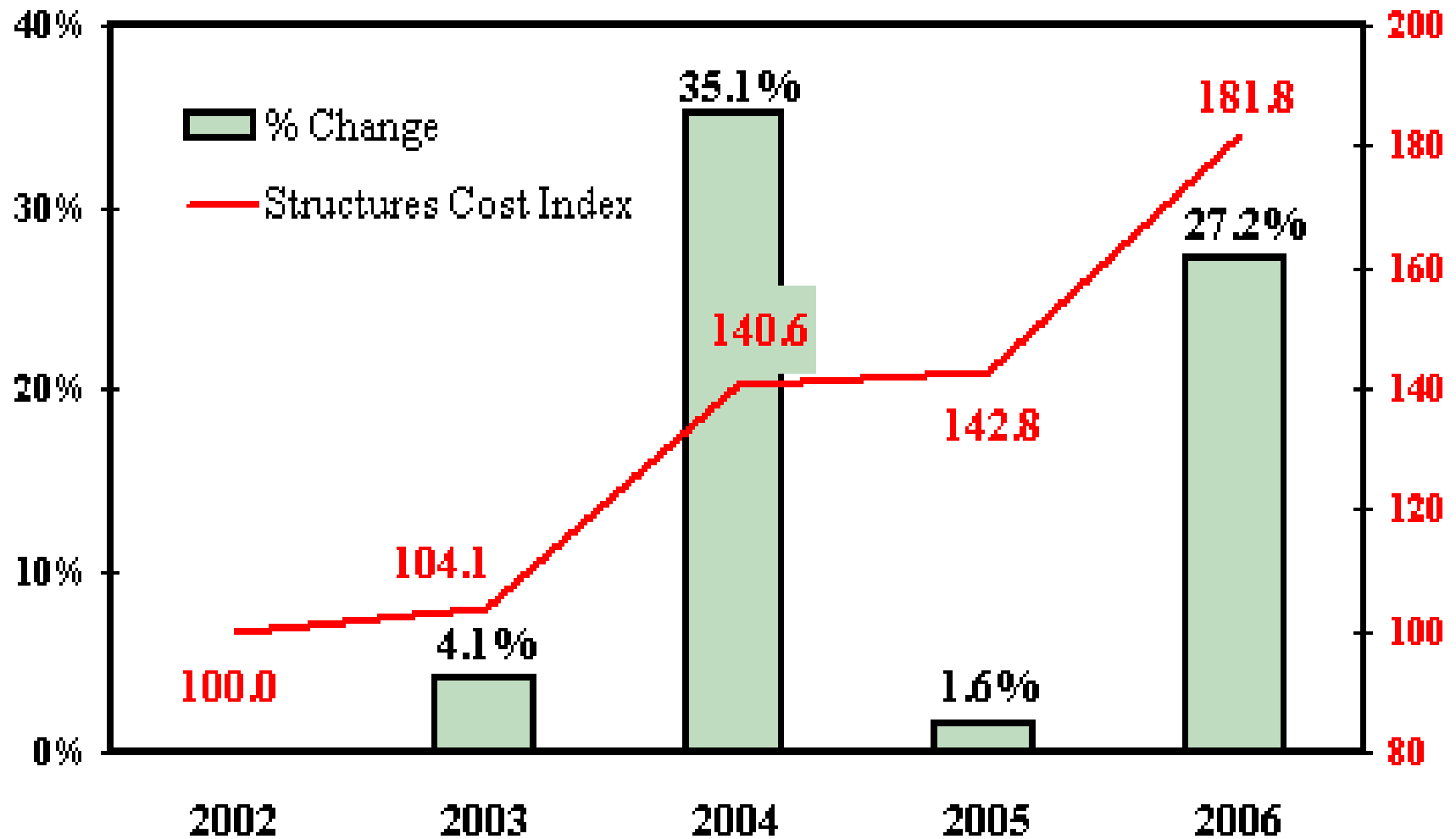
Bridge Project Delivery Functionality Issues

- The current TIP project development process allows 5 years from planning to let
- Overdesign on the subregional tier
- Scope is not based upon a budget, funding is based upon design
- Several project delays - TIP and BPOC

Bridge Project Delivery Functionality Issues

- Out of 568 TIP projects between 2002 and 2007, 81 had delays of over 6 months and 240 had delays greater than one year
- Reasons for delays include PDEA, Various Design Units, Permit issues, R/W, Utilities, and SHPO.
- Many coordination issues

NCDOT Structures Cost Index



Bridge Project Delays

Inflation Results

- \$2,000,000.00 bridge replacement delayed from 2004 to 2005. $(142.8 / 140.6) \times \$2\text{M} = \2.03M that's a 1.6% increase
- \$2,000,000.00 bridge replacement delayed from 2005 to 2006. $(181.8 / 142.8) \times \$2\text{M} = \2.55M that's a 27.2% increase
- \$2,000,000.00 bridge replacement delayed from 2004 to 2006. $(181.8 / 140.6) \times \$2\text{M} = \2.59M that's a 29.3% increase

Recommendations to Improve the Bridge Program

- Central Bridge Manager, Division Bridge Manager, R/W-Utility coordinator
- Implement budget based planning design, construction and maintenance
- Develop Bridge Maintenance and Preservation Manual
- Remove Design function from Bridge Maintenance for replacement - BMU focus on PA's, Inspection, Data Collection and Analysis, Preservation, Rehabilitation and Training

Recommendations to Improve the Bridge Program

- Complete and implement Tiered Design Standards
- Investigate additional funding options for the bridge program (Garvee, IM)
- Develop and implement a delay/advance procedure
- Require on site scoping meetings

Recommendations to Improve the Bridge Program

- Hold PDEA, Division DEO & Agency workshop for permit regulation, requirement and moritorium improvements
- Develop legislation for a delegation process for NCDENR Water Quality Permits similar to the NCDENR Land Quality delegated process

Recommendations to Improve the Bridge Program

- Division managed “B” projects - sub-regional tier
- Streamline the current “B” project development process (reduce from 5 years to 3 years max.)
- Regionalize preconstruction to align with specific Divisions (east, central and west)

Recommendations to Improve the Bridge Program

- Let all “B” projects centrally with TIP projects
- Scope, design, let and construct as a group - regional or Division
- Develop policies and procedures to eliminate bridges for routes with reasonable alternatives

Other Ideas to Consider to Improve the Bridge Program

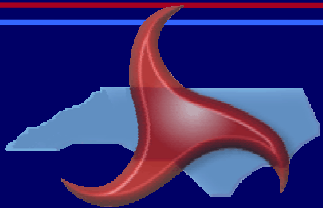
- Standard bridge plans for subregional tier
- Off site detour fast track
- Revisit off-site detour policy and procedures
- Additional funding plan
- Ramp up plan

Questions?

21st Century Transportation Committee Prioritization Subcommittee

Presented by
Terry Gibson, P.E.

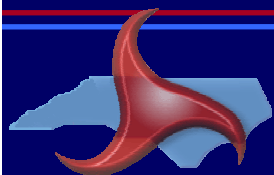
Raleigh, NC
February 6, 2008



NCDOT Transformation

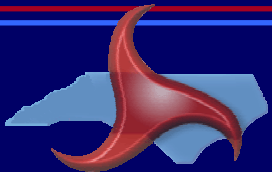
NCDOT's Transformation Includes:

- Vision - 21st Century DOT focused on State's transportation network connectivity and performance
- Prioritization - Realization of the need for a better prioritization of the State's resources to address congestion, safety, and infrastructure needs, and
- A better performing DOT



Solving NC Transportation Problems

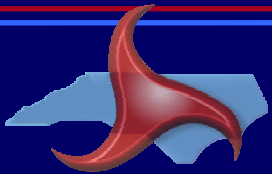
- Not Simple Matter of Revenue
- Requires a 3 Step Approach
 - 1) Improve NCDOT Organization & Process to become more efficient and impact focused
 - 2) Establish Statewide Prioritization Process
 - 3) Determine Incremental Resources/Revenues to achieve desired outcomes
 - Dependent on 1 and 2



Transformation Beginnings

21st Century NCDOT Vision

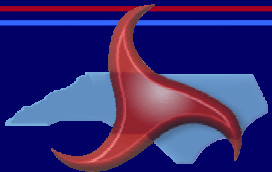
- Focus on Network Connectivity & Function, not just Projects
- Enhance Systems Operations, to leverage existing infrastructure
- Establish Network Performance Standards
- Greater Internal Efficiency, Ownership and Accountability
- Prioritized, Outcome-Based Budgets
- Culture Shift, become true Service Provider



Transformation Diagnostic Highlights

Development Areas

- Conflicting Vision and Goals
- Non-Strategic Portfolio of Project and Services
- Core Processes Lack Prioritization, Accountability, Coordination
 - Project Design & Delivery
 - Strategic Planning (ad-hoc)
 - Operational Processes (not linked to metrics)
 - Funding Flexibility
- Shortcomings
 - Organization Structure (Silo and non-collaborative)
 - Failing Talent System (Recruit/Motivate/Develop)
 - Communication (Not pro-active)



Five Key Transformation Initiatives

Strategic Direction

- Define common **Mission** and **Goals** for the NCDOT
- Determine the appropriate **scope of activities** for NCDOT
- Identify potential opportunities for new sources of **funds**
- Evaluate possible **organizational changes** to reach strategic goals

Planning and Prioritization

- Establish a **Strategic Planning Office**
- Develop **strategic plan** that aligns with Mission and Goals
- Establish a new **prioritization approach** based on strategic priorities

Program and Project Delivery

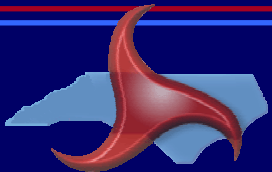
- Develop and implement enhanced **program and project delivery** models and processes

Performance and Accountability

- Implement a public facing **Executive Dashboard** that is aligned with the mission and goals
- Introduction of a **performance based culture** that cascades performance metrics throughout the organization

Improved Human Resource Management

- Design a **rigorous performance review** process tied to performance metrics
- Design a process for **leadership planning**
- Make high level recommendations on **employee recruitment, development and retention**



Mission & Goals

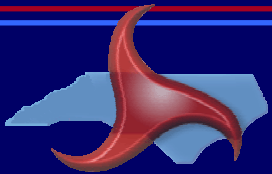
NCDOT

OUR MISSION

*"Connecting people and places
in North Carolina – safely and
efficiently, with accountability
and environmental sensitivity"*

OUR GOALS

- Make our transportation network **safer**
- Make our transportation network move people and goods more **efficiently**
- Make our infrastructure **last longer**
- Make our organization a place that **works well**
- Make our organization **a great place to work**



Program and Project Delivery

Streamlined Program and Project Delivery

Accomplishments to Date:

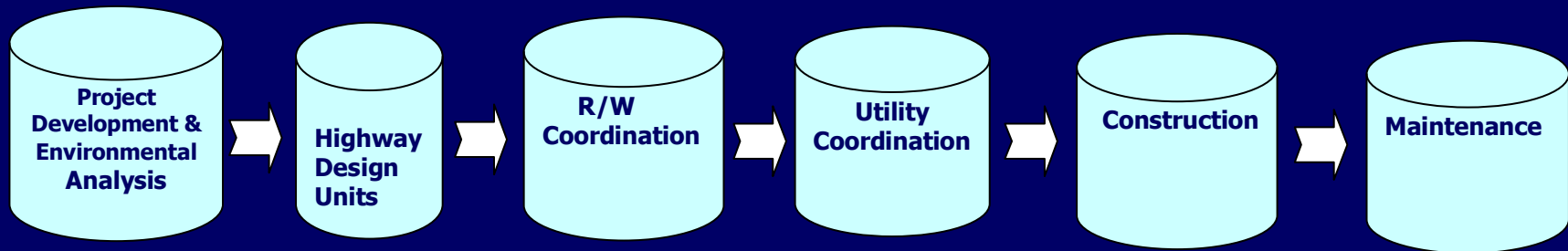
- **NCDOT Bridge Program**
 - Twenty Year Assessment of Statewide Bridge Needs
 - Developed Processes to Address Gaps in Bridge Program Needs
- **TIP Projects**
 - Test Streamlined Project Delivery Models on Select TIP Projects
 - Demonstrate Ability to Deliver Projects Efficiently Particularly When Clear Priorities Are Set
 - PBS&J Study
- **Mobility Program**
 - Establish Standard Measures of Congestion to Allow Prioritization of Solutions
 - Identify Alternative Approaches to Manage Congestion
 - Assess Efficiency and Effectiveness of Resources Currently Allocated to Mobility Management

Key Deliverables - Within Next 12 Months

- Implement Processes
- Implement “Pilots”
- Assess Results and Make Long Term Changes Based on Lessons Learned



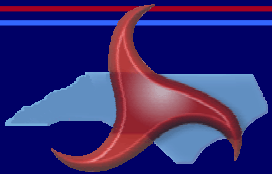
Historic Bridge Program - Silo Effect



1-5 Year Process

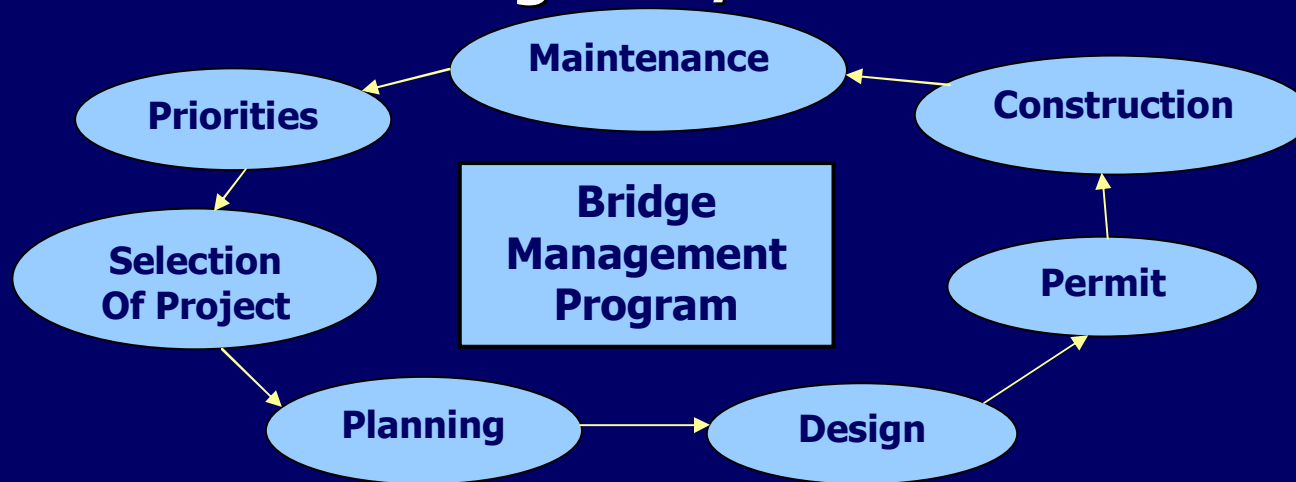
Projects are selected based on Central list with minimal Division Input.

- No single point of accountability
- No team approach, Multiple hand-offs occur within units
- The same design standards are applied to all bridges
- Process without budget constraints
- Inefficient Process



New Bridge Program

One Owner with Regional/Division Coordination



1-3 Year Process

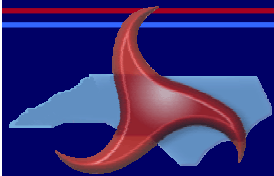
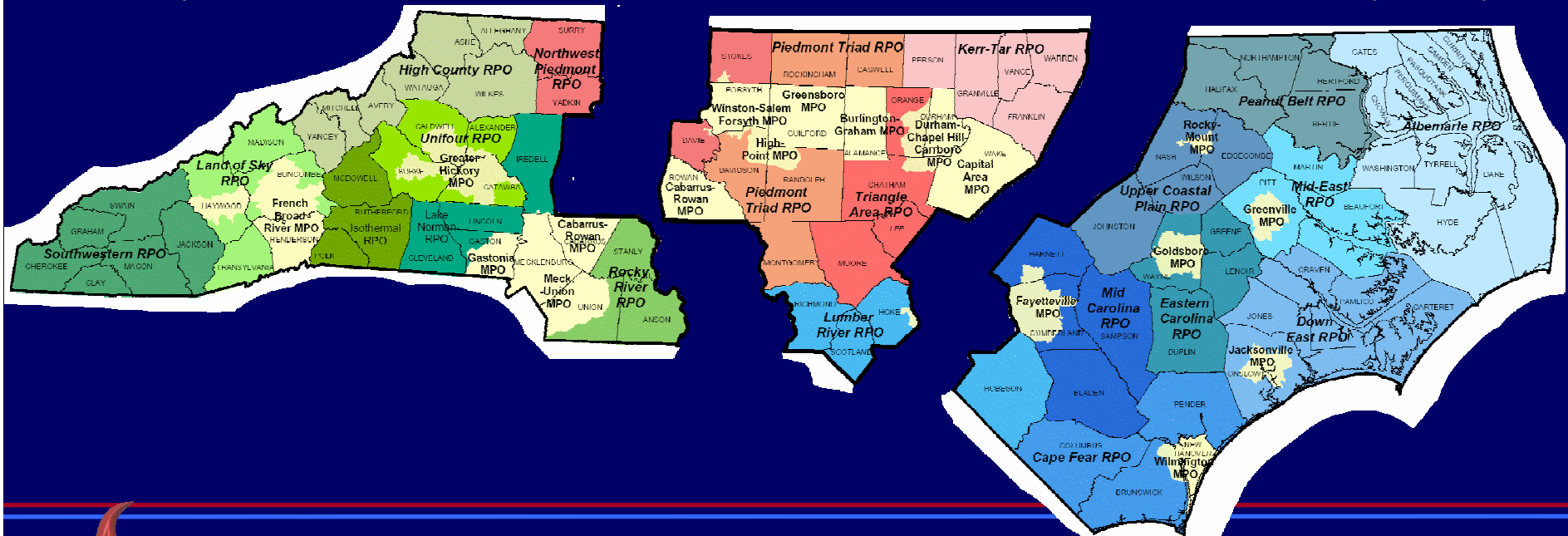
Projects are selected based on need and available funds with significant Division input.

- Bridge Management – accountable for entire program
- Division Managers are accountable for bridges in the Division
- Regional Team Approach - better efficiency and accountability
- On-site scoping minimizes alternatives, saving time and money
- Tiered Design Standards - right size bridge for route (est. 25% savings)
- Budget Based Design and Construction - spending accountability



New Process - Regional Teams

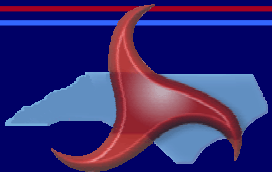
Region	Western	Central	Eastern
Division	10,11,12,13,14	5,7,8,9	1,2,3,4,6
STIP Staff	Van Argabright	Mike Stanley	Ray McIntyre
PDEA Staff	Teresa Hart	Eric Midkiff	Rob Hanson
Roadway Staff	Scott Blevins	Ron Allen	Dewayne Sykes



New Process - Delivery

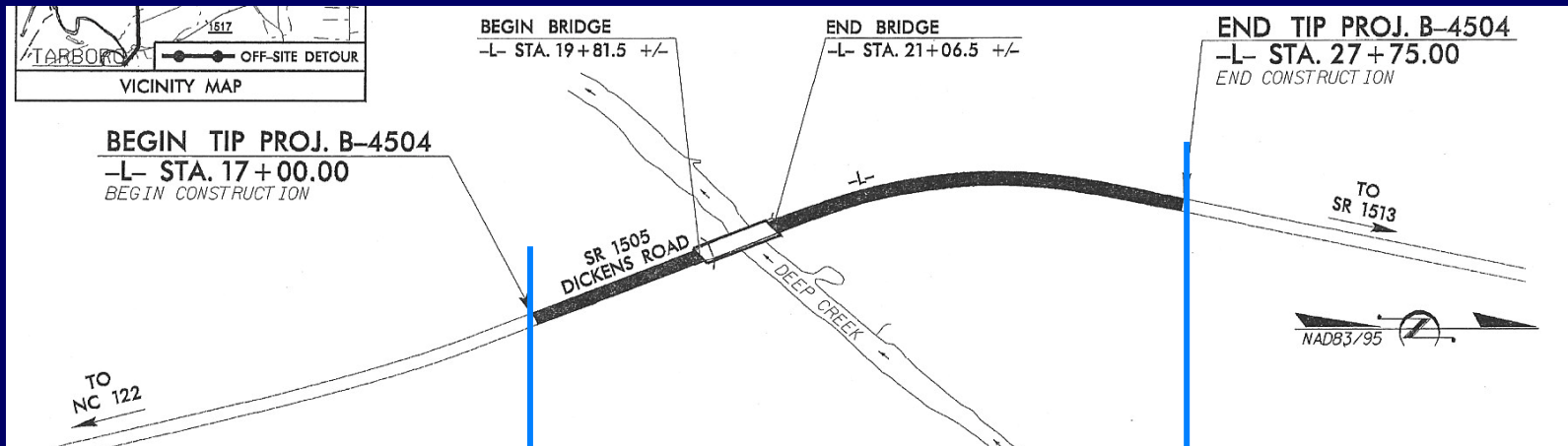
TIP #	Location (County)	Let Date	# of Bridges
B-1382	Sampson	8/08	2
B-3830	Columbus	9/08	2
B-4029	Bladen	9/08	1
B-4082	Columbus	9/08	2

- Group projects geographically & by let schedule
- Hold on-site scoping meetings with project team
- Apply appropriate design standards – maximize cost savings
- Let to construction as one project for economy of scale

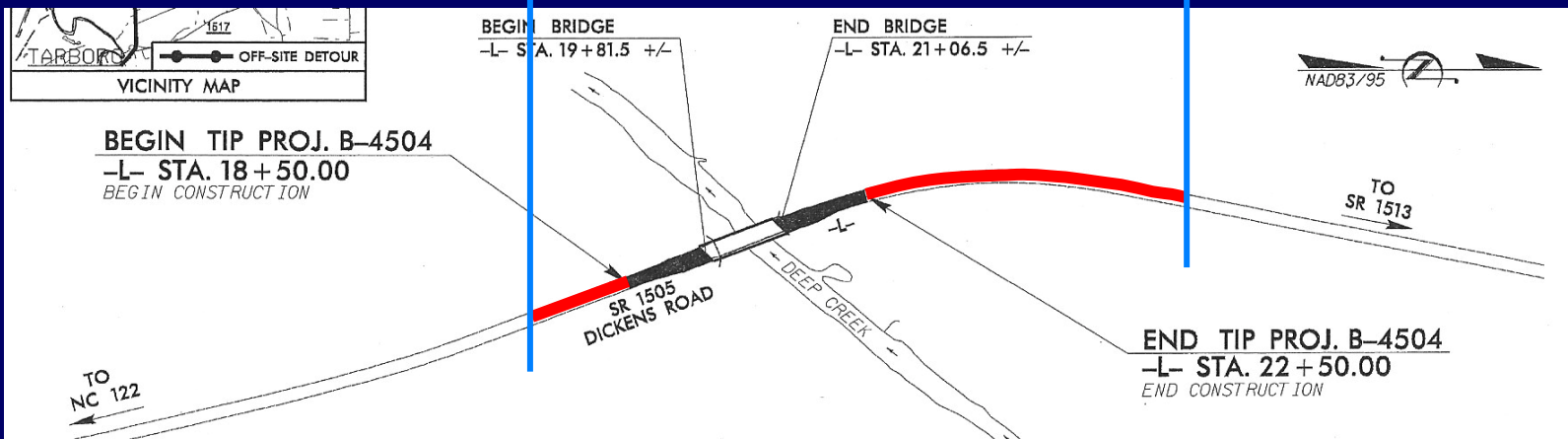


New Process – Tier Design

Old
Standard

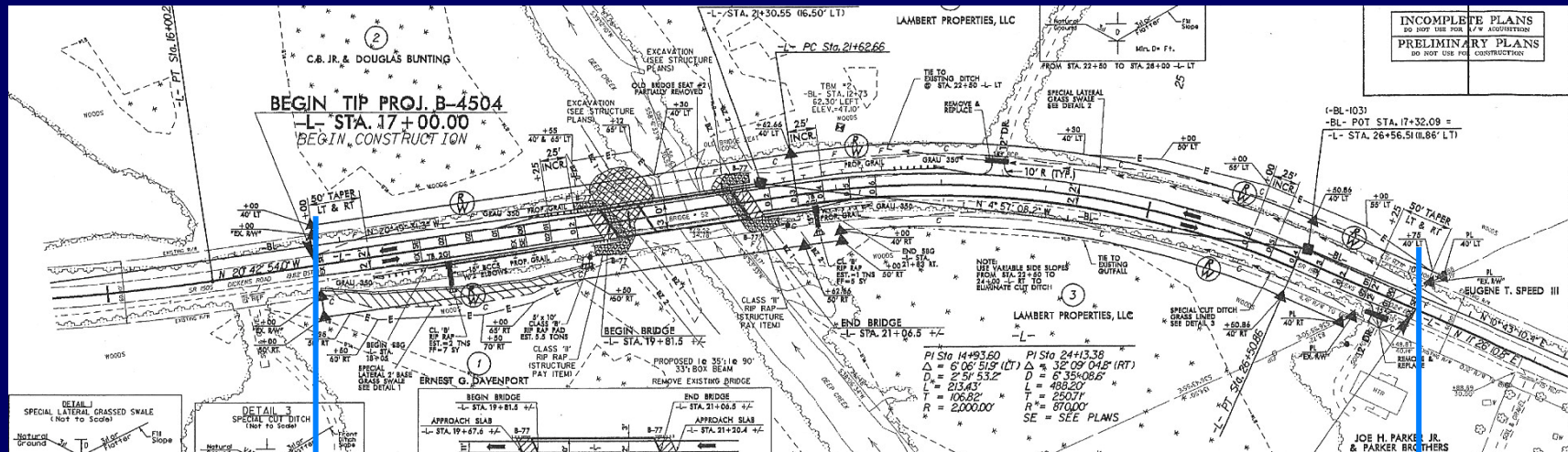


New
Standard

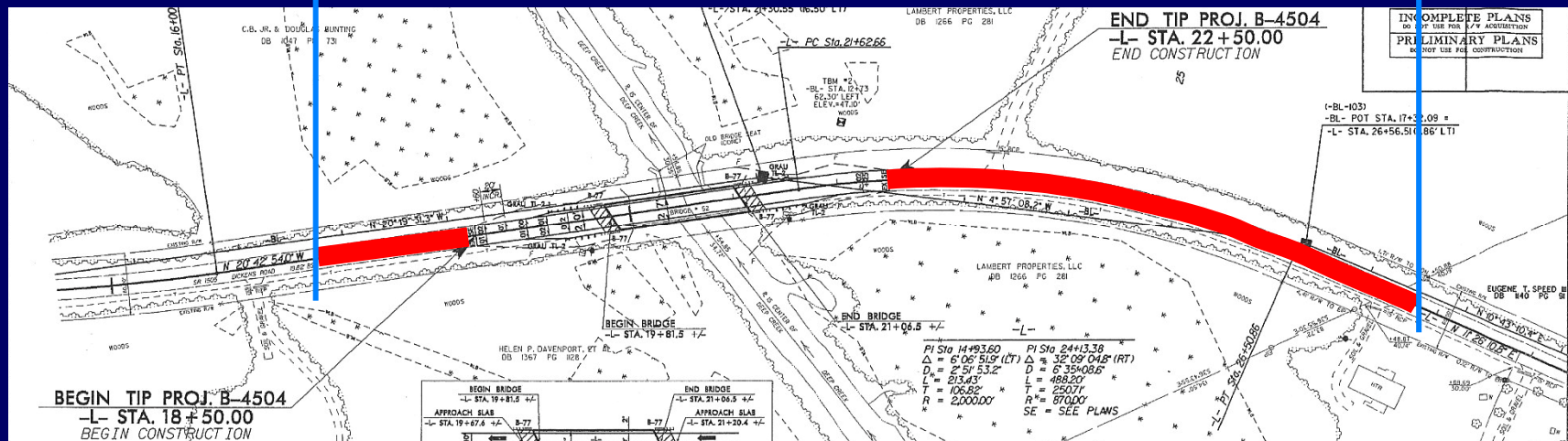


New Process – Tier Design

Old
Standard

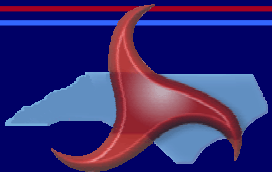


New
Standard



Summary and Next Steps

- Brief TMT Overview
- Bridge Program Plan
 - Program Efficiency (in progress)
 - Cut time by Two Years
 - Instituted Regional Teams
 - Developed on-site Scoping
 - Standard Design
 - Group Lettings
 - All resulting in Cost and Time Savings
 - Program Funding (working with BOT TIP Subcommittee)
- Continue looking for new opportunities



**Bridge Program Improvement Process
Recommendations**

Recommendation	Why
<p>Recommendation No. 3A - Develop a notification process for project changes Develop a process so that when issues are identified on a project which will lead to a delay another project is identified to be accelerated or inserted into the process to fill the void. This will help ensure we do not fall further behind in the delivery and management of the bridge program. (Parallels T.I.P. process of monthly project integration exchange (P.I.E.) division staff meets with project teams for calibration of a monthly basis.</p> <p>Recommendation No. 3B – Division managed projects. Establish a process so that Division could select and manage projects on the sub-regional tier. Approximately 70% of the bridges that need to be addressed are located on our sub-regional tier. The quickest bridge replacement project delivery model for our sub-regional tier is a Division managed model. Some of these bridges require minimal agency involvement that can be carried out by the Division Environmental Officer. This allows environmental decisions to be made timelier at the local level. The Division managed model is based upon the Division partnering with Central Design for delivery or managing a private consulting firm performing the planning and design while the Division acquires the permit, coordinates R/W acquisition, and oversees utility relocation. Delivery by this method will provide the quickest method of addressing the greatest number of bridges. This method also provides 14 different business centers to manage project delivery in lieu of one central location. (Parallels T.I.P. Pilot recommendation for division produced PCE/CE projects)</p>	<p>Finding No. 3 – Bridge Projects are not a priority During the plan development process – I, R, U and other higher cost projects have historically take priority over “B” projects. Business units that have workgroups that work on bridge projects and other highway projects often put bridge projects aside to work on the other highway projects because they are considered a higher priority.</p> <p>The higher cost projects are given priority because our past measurements of success have been based upon the amount of dollars we let to construction. Construction inflation rates that have been experienced in the recent past result in significant project cost increases when delays occur. The construction inflation rates on bridges average higher than other highway construction due to the amounts of concrete and steel in a bridge project. Several delays to projects have occurred in the bridge project development process – 568 “B” projects were scheduled between 2002 and 2007, 240 of those projects had delays over one year. Delays were attributed to PDEA, various design units, permit, utility and R/W issues and SHPO issues.</p>

**Bridge Program Improvement Process
Recommendations**

Recommendation	Why
<p>Recommendation No. 3C – Division Bridge Managers - Management of the Division Bridge Delivery process will require 14 Division Bridge Management Engineers being created in the 14 Divisions. These positions will also be tasked with planning for routine maintenance, identifying Division needs and developing a plan to address the management of structure assets and meet target performance levels in the Division. This is in contrast to the job of the current bridge engineer which tends to be more reactive, hands on, and a technical consultant to division bridge superintendents. A move to an Asset Management based culture will require this additional functionality in the Division. These are not new positions. These positions will be filled from vacant positions.</p> <p>Recommendation No. 3D – Regionalize Preconstruction Align the individual preconstruction business units with the Divisions by region (east, central and west). This will build east, central and west teams and will improve communication between preconstruction and operations. This approach will also improve communications across the individual business units within preconstruction. Building these teams will promote understanding of the priorities of the projects within the region and will ensure all parties involved realize the consequences to the transportation system of project delays. (Parallels T.I.P. process alignment recommendation)</p>	<p>Delays are costly and due to the recent rates of construction inflation delays to bridge projects are very significant. Structure inflation has averaged approximately 17% between 2002 and 2006 – delays to projects at this inflation rate significantly decreases our buying power (A \$2 million dollar bridge delayed from 2005 to 2006 cost \$2.5, therefore timely project delivery is very important for fiscal reasons as well as service reasons).</p> <p>Build team approach for delivery of all projects, improve communication and efficiency.</p>

**Bridge Program Improvement Process
Recommendations**

Recommendations	Why
<p>Recommendation No. 4 - Sub-Regional Tier Design Standards Develop and implement Sub-Regional Tier design standards for bridges. This will allow the bridges to be right-sized for the facility and will reduce costs of bridges on the sub-regional tier. The implementation of these standards can result in cost savings to our sub regional tier bridges of no less than 20%. Approximately 70% of our bridges are on the sub-regional tier. That results in approximate savings of \$14 million dollars for a \$100 million bridge program. The implementation of these standards will not compromise the safety of the traveling public and will make our bridge dollars go farther.</p>	<p>Finding No. 4 Designs Appear Excessive The bridge projects on the sub-regional tier bridges appear excessive. The projects are designed in accordance to AASHTO standards for new projects. The designs were also being driven by the statutory speed limit which required higher design standards. This results in excessive spending on the sub-regional tier in bridge replacement project costs, increases in environmental impacts, and additional R/W and utility costs. The longer and wider bridges also result in increased maintenance costs for the sub-regional tier. The use of site appropriate design standards which includes site speed studies and the use of 3- R Design Standards will provide more efficient designs on the sub regional tier. This is similar to what is used on Purchase Order Contracts.</p>
<p>Recommendation No. 5 - Mandatory on site scoping meetings for all projects On site scoping meetings get all the individuals involved in making initial project decisions to meet on site and make cost effective decisions while considering environmental and public impact factors. It is imperative that personnel capable of making decisions representing planning, roadway, structures, R/W, utilities, division and etc. attend these meetings with the goal of leaving the site with clear direction which minimizes scope, cost and time. Making on site scoping meetings the standard for all bridge projects can potentially eliminate the investigation of unnecessary alternatives and shorten the project development time.</p>	<p>Finding No. 5 – Project Scoping Decisions to establish project scope and alternatives are not held on site. Currently, meetings to establish the parameters for alternatives and decisions on bridge projects are determined at a scoping meetings held in a central location. Participants are encouraged to visit the site prior to the central meeting. During the meeting digital photographs are used to determine alternatives and make scoping decisions. One exception to this is the Bridge Maintenance Purchase Order Contracts (BPOC's). All BPOC's are scoped on site and many decisions are made at the scoping meeting, which leads to more site appropriate designs and better decisions.</p>

**Bridge Program Improvement Process
Recommendations**

Recommendation	Why
<p>Recommendation No. 6A – In-depth Review and Training on Project Commitments Perform an in-depth review of project commitments and permit requirements. Included on the team should be resource agencies. Upon completion of the review, if changes are made to policy or process develop and provide training.</p> <p>Recommendation No. 6B – Work with NCDENR to Develop a Delegated Program for NCDENR Water Quality Permits NCDOT and NCDENR experts need to work to develop a delegated program for Water Quality permits that will ensure appropriate permit requirements in an efficient manner. NCDOT and NCDENR employees should use the NCDENR Land Quality delegated program as the standard to follow to develop a similar Water Quality Program. A delegated program will ensure the proper permit requirements and will allow more bridge projects to be delivered without adding staff to NCDENR.</p>	<p>Finding No. 6 – Project Commitments and Permit Requirements Permit requirements, commitments and moratoriums increase construction time, costs and user delay. In water work moratorium duration in many cases can extend to over half of the construction season. The permit requirements and project commitments need to be based upon required regulations. Commitments which turn into permit requirements for some projects have been established based on preferences rather than regulations.</p>
<p>Recommendation No. 7A - Streamline Delivery Process (Simple and Subregional) Implement the Division managed model immediately with a goal of 2 year delivery from scope to traffic on the structure.</p> <p>Recommendation No. 7A - Streamline Delivery Process (Difficult, Regional, SHC) The Design Branch Manager and the PDEA Branch Manager need to establish a task group and require the process from scope to traffic on structure to be streamlined to no more than 3 years. This will minimize the impact of escalating construction costs and increase the speed in which we address deficient structures in NC</p>	<p>Finding No. 7 – Project Delivery Schedule The current model for TIP bridge project development allows 5 years from the beginning of the planning work to letting of the project for construction. This requires NCDOT bridge priorities to be established years in advance of this process. The time frame associated with this process can be challenging when priorities need to be adjusted quickly.</p>

**Bridge Program Improvement Process
Recommendations**

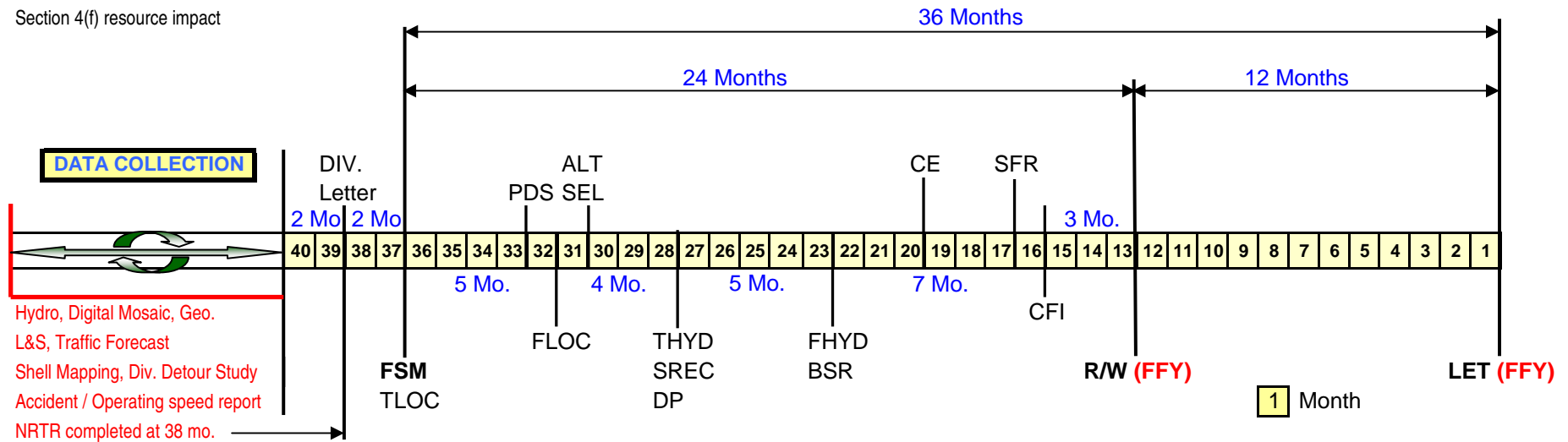
Recommendation	Why
<p>Recommendation No. 8 - Develop budget based bridge program</p> <p>Developing and implementing a budget-based process will provide for cost effective bridge project development, construction and maintenance decision making.</p>	<p>Finding No. 8 – The Bridge Program is not Budget Based</p> <p>Preconstruction does not perform work with a budget in mind, the budget for construction is the bid amount plus percentage increase for administration, overruns and claims, there is no project specific budget for maintenance. Money is set up for a project based upon history of expenses for similar projects, however the individual business units are not aware of the amounts and are not charged to spend within the established funds set up for the project. Performing work without a budget result in decisions being made with out cost restrictions, which can lead to spending more than necessary.</p>

Abbreviation	Full Name
CE	Categorical Exclusion
CFI	Combined Field Inspection
DBM	Division Bridge Manager
DCE	Division Construction Engineer
DEO	Division Environmental Officer
DL&S	Division Locations & Surveys
DRA	Division Right of Way Agent
DUA	Division Utilities Agent
DWQ	Division of Water Quality
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
GEO	Geotechnical Unit
HEU	Human Environment Unit
HYD	Hydraulics Unit
FSM	Field Scoping Meeting
L&S	Location and Surveys
NEU	Natural Environment Unit
NEU-BIO	Natural Environment Unit - Biological Surveys Group
NRTR	Natural Resources Technical Report
PCE	Programmatic Categorical Exclusion
PDEA	Project Development & Environmental Analysis
PROG DEV	Program Development Branch
PS-CONTRACTS	Project Services - Contracts & Proposals Section
PS-UTIL	Project Services - Utility Section
RDU	Roadway Design Unit
REU	Roadside Environmental Unit
SDU	Structure Design Unit
SFR	Structure Foundation Recommendations
UCU	Utilities Coordination Unit
USACE	US Army Corps of Engineers

Bridge Process Requirements:

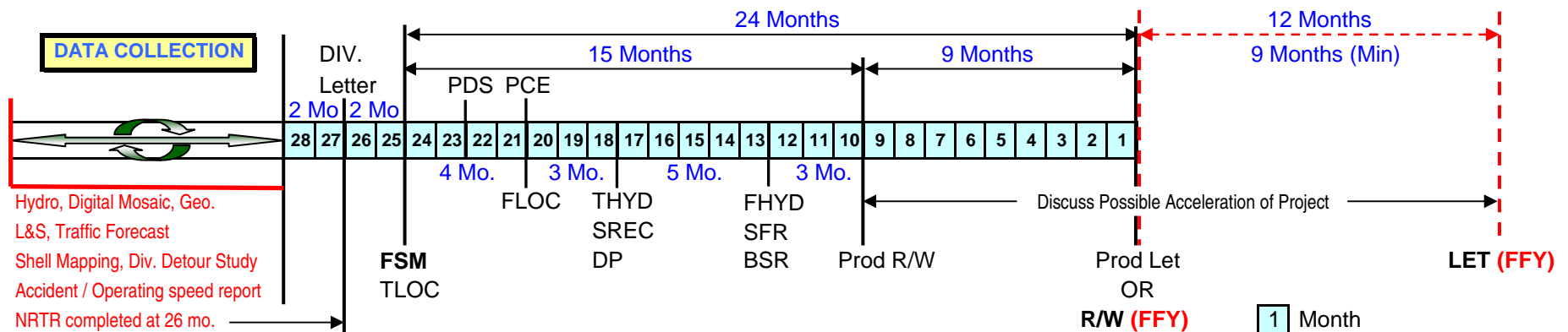
On-site Detour or new alignment [CE or PCE]
 FEMA detailed flood study area
 CAMA Major Permit
 Major Utility Impact
 Relocatees
 Section 106 properties
 Section 7 impact
 Section 4(f) resource impact

TRI- Managed Bridge Process

**Bridge Process Requirements:**

Off-site Detour, One Alternate, [PCE]
 No FEMA detailed flood study area
 No CAMA Permit or CAMA general permit only
 No Relocatees, Minor Utility impacts
 No Section 106 properties, No Section 7 Impacts
 No Section 4(f) resource impacts

Division Managed Bridge Process



Bridge Replacement Process Guideline

As a result of recommendations of the Transformation Management Team, the existing bridge replacement process has been revised and separated into two different project management approaches. These new processes consist of a TRI-Managed Process and a Division Managed Process. The selection of the type of process will be dependant upon the project complexity and site conditions. The Bridge Management Unit will complete the planning and design of projects that are underway. After these projects are complete they will no longer plan, design, or let bridge replacement projects.

The following processes are intended to be guidelines only and can be modified by the Tri-Managers as they see fit based on project specifics, funding considerations, manpower, and resource requirements.

Data Collection Phase

The initial phase of each project will consist of data collection and evaluation. The Data Collection Phase for all bridge replacement projects will be managed by the PDEA – Bridge Project Development Unit.

Field Scoping Meeting (FSM)

A Field Scoping Meeting (FSM) will be held for each project to determine which process the project should follow. FSMs will be scheduled and analyzed in “bundles” of projects based on Division boundaries and project TIP schedules. The Division Bridge Manager will be responsible for the assembly and distribution of the FSM Worksheets to the various units, and for the scheduling and facilitating of FSM meetings. The completed FSM Worksheets will be used as the Final Minutes of that meeting.

TRI-Managed Bridge Process

The TRI-Managed Bridge Replacement Process will be used by the Project Development and Environmental Analysis Branch, Highway Design Branch, in consultation with the Divisions to plan, design, and permit more complex TIP Bridge Replacement Projects using a CE or PCE.

PDEA will be responsible for the planning document and all permit applications. All projects will be designed by the Highway Design Branch and Let from the Central Proposals and Contract Office.

The following list of project and site conditions may be used to determine projects requiring the TRI-Managed Bridge Process:

- On-site Detour or new alignment [CE or PCE]
- FEMA detailed flood study area
- CAMA Major Permit
- Major Utility Impacts
- Relocatees
- Section 106 properties
- Section 7 impacts
- Section 4(f) resource impacts [Forest Service Lands, State Parks, etc.]

Division Managed Bridge Process

The Division Managed Bridge Process will be used by the Division Bridge Managers and the Highway Design Branch to plan, design, and permit less complex TIP Bridge Replacement Projects that require a Programmatic Categorical Exclusion (PCE).

The Division Environmental Officer will be responsible for the planning document and the 401, 404, and CAMA General permit applications. The designs will be done by the Highway Design Branch. These projects can be Let by the Divisions or by the Central Office.

Due to a short pre-construction schedule for these types of projects, Right of way and Let may be placed on a production schedule. It will be the Division's responsibility to obtain the funding for any advancement in the TIP FY Funding.

The following list of project and site conditions may be used to determine where the Division Managed Process can be used:

- Off-site Detour, one alternate [PCE]
- No FEMA detailed flood study area
- No CAMA Permit or CAMA general permit only
- Minor Utility Impacts
- No Relocatees
- No Section 106 properties
- No Section 7 impacts
- No Section 4(f) resource impacts [Forest Service Lands, State Parks, etc.]



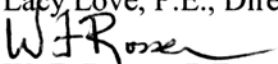
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

September 5, 2008

Memorandum To: Steve Varnedoe, P.E., Chief Engineer – Operations
Deborah Barbour, P.E., Director of Preconstruction
John Nance, P.E., Director of Field Support
Lacy Love, P.E., Director of Asset Management

From: 
W. F. Rosser, P.E.
State Highway Administrator

Subject: Tri-Managed and Division Managed Bridge Replacement Process

As a result of recommendations by the Bridge Technical Team and Transformation Management Team, the existing bridge replacement process has been revised and separated into two different project management approaches. The two processes were developed with a goal of streamlining the Department's delivery of bridge replacement projects. Both processes will involve a Data Collection Stage followed by a Field Scoping Meeting. The Field Scoping Meeting attendees will then decide on the appropriate process to follow for the remainder of the project. The attached guidelines provide milestones for the major activities involved in each of the two processes.

Please share this information with your staff members and proceed with the implementation of these guidelines immediately. For bridge projects currently under development, the Tri-Managers should decide how existing projects can be brought into the new process.

If you have any questions, you may contact Art McMillan, Neil Lassiter, or Bill Goodwin.

WFR/gl

Attachment

cc: Roberto Canales, P.E.
Ellis Powell, Jr., P.E.
Art McMillan, P.E.
Neil Lassiter, Jr., P.E.
Bill Goodwin, P.E.